

In the Claims

1. (Currently Amended) A system for distributing packets for communication to a mobile unit comprising:

a mobile unit having a device identifier and an internet protocol (IP) address comprising a first subnet identifier, the mobile unit roaming in a foreign network having a second subnet identifier;

a mobility manager operable to determine a multicast address for the mobile unit based on the device identifier, to receive multicast address requests that include the device identifier, and to communicate the multicast address responsive to the multicast address requests;

a foreign agent in the foreign network, the foreign agent operable to detect the mobile unit ~~by determining that a signal strength for signals received from the mobile unit have exceeded a threshold~~, to determine the device identifier for the mobile unit, to communicate a request including the device identifier to the mobility manager, to receive the multicast address from the mobility manager, and to register for a multicast group identified by the multicast address; and

a home agent operable to receive IP packets addressed to the mobile unit, to determine the multicast address associated with the mobile unit, to encapsulate the IP packets as payloads for multicast packets addressed to the multicast address, and to communicate the multicast packets for receipt by devices registered for the multicast group using a packet network.

2. (Original) The system of Claim 1, wherein the device identifier is at least one of a mobile identification number (MIN) for the mobile unit and an equipment serial number (ESN) for the mobile unit.

3. (Original) The system of Claim 1, wherein the foreign agent is further operable to receive the multicast packets from the packet network, to extract the IP packets from the multicast packets, and to communicate the IP packets to the mobile unit.

4. (Currently Amended) The system of Claim 1, wherein the foreign agent is further operable to detect the mobile unit by determining that a signal strength for signals received from the mobile unit have exceeded a threshold.

5. (Original) The system of Claim 1, wherein the home agent determines the multicast address by communicating a request including the IP address of the mobile unit to the mobility manager and receiving the multicast address from the mobility manager responsive to the request.

6. (Currently Amended) A method for registering to receive packets comprising:
determining a device identifier for a mobile unit, the mobile unit having an internet protocol (IP) address comprising a subnet identifier for a remote network;
communicating a request for a multicast address associated with the mobile unit, the request including the device identifier;
receiving the multicast address; and
registering for a multicast group identified by the multicast address;
~~determining that signal strength for signals received from the mobile unit have dropped below a threshold; and~~
~~in response to the determination, withdrawing from the multicast group.~~

7. (Original) The method of Claim 6, further comprising receiving multicast packets addressed to the multicast address, wherein the multicast packets contain information for communication to the mobile unit.

8. (Original) The method of Claim 7, wherein the information in the multicast packets comprises IP packets addressed to the IP address for the mobile unit.

9. (Original) The method of Claim 7, wherein the information in the multicast packets comprises voice information.

10. (Original) The method of Claim 6, wherein the multicast group comprises a plurality of foreign agents each receiving multicast packets containing information for communication to the mobile unit.

11. (Original) The method of Claim 10, wherein each of the foreign agents receiving the multicast packets communicates the information from the multicast packets to facilitate handoff of the mobile unit.

12. (Original) The method of Claim 6, wherein the device identifier is at least one of a mobile identification number (MIN) for the mobile unit and an equipment serial number (ESN) for the mobile unit.

13. (Currently Amended) The method of Claim 6, further comprising determining that signal strength for signals received from the mobile unit have dropped below a threshold and, in response to the determination, withdrawing from the multicast group.

14. (Currently Amended) An apparatus for providing communications services for communications sessions of a mobile unit associated with a foreign network, the apparatus comprising:

an interface operable to couple to a communications network; and

a processor operable to determine a device identifier for the mobile unit, the mobile unit having an internet protocol (IP) address comprising a subnet identifier for the remote network, the processor further operable to communicate a request for a multicast address associated with the mobile unit, the request including the device identifier using the interface, to receive the multicast address using the interface, and to register for a multicast group identified by the multicast address, ~~the processor further operable to determine that signal strength for signals received from the mobile unit have dropped below a threshold and, in response to the determination, to withdraw from the multicast group.~~

15. (Original) The apparatus of Claim 14, wherein the interface is further operable to receive multicast packets addressed to the multicast address, wherein the multicast packets contain information for communication to the mobile unit.

16. (Original) The apparatus of Claim 15, wherein the information in the multicast packets comprises IP packets addressed to the IP address for the mobile unit.

17. (Original) The apparatus of Claim 15, wherein the information in the multicast packets comprises voice information.

18. (Original) The apparatus of Claim 14, wherein the multicast group comprises a plurality of foreign agents each receiving multicast packets containing information for communication to the mobile unit.

19. (Original) The apparatus of Claim 18, wherein each of the foreign agents receiving the multicast packets communicates the information from the multicast packets to facilitate handoff of the mobile unit.

20. (Original) The apparatus of Claim 14, wherein the device identifier is at least one of a mobile identification number (MIN) for the mobile unit and an equipment serial number (ESN) for the mobile unit.

21. (Currently Amended) The apparatus of Claim 14, wherein the processor is further operable to determine that signal strength for signals received from the mobile unit have dropped below a threshold and, in response to the determination, to withdraw from the multicast group.

22. (Currently Amended) An apparatus for providing communications services for communications sessions of a mobile unit associated with a foreign network, the apparatus comprising:

means for determining a device identifier for the mobile unit, the mobile unit having an internet protocol (IP) address comprising a subnet identifier for the remote network;

means for communicating a request for a multicast address associated with the mobile unit, the request including the device identifier;

means for receiving the multicast address; and

means for registering for a multicast group identified by the multicast address;

~~means for determining that signal strength for signals received from the mobile unit have dropped below a threshold; and~~

~~means for, in response to the determination, withdrawing from the multicast group.~~

23. (Original) The apparatus of Claim 22, further comprising means for receiving multicast packets addressed to the multicast address, wherein the multicast packets contain information for communication to the mobile unit.

24. (Currently Amended) The apparatus of Claim 22, further comprising means for determining that signal strength for signals received from the mobile unit have dropped below a threshold and means for, in response to the determination, withdrawing from the multicast group.

25. (Currently Amended) Logic for registering to receive packets, the logic encoded in media and operable to:

determine a device identifier for a mobile unit, the mobile unit having an internet protocol (IP) address comprising a subnet identifier for a remote network;

communicate a request for a multicast address associated with the mobile unit, the request including the device identifier;

receive the multicast address; and

register for a multicast group identified by the multicast address;

~~determine that signal strength for signals received from the mobile unit have dropped below a threshold; and~~

~~in response to the determination, withdraw from the multicast group.~~

26. (Original) The logic of Claim 25, further operable to receive multicast packets addressed to the multicast address, wherein the multicast packets contain information for communication to the mobile unit.

27. (Original) The logic of Claim 26, wherein the information in the multicast packets comprises IP packets addressed to the IP address for the mobile unit.

28. (Original) The logic of Claim 26, wherein the information in the multicast packets comprises voice information.

29. (Original) The logic of Claim 25, wherein the multicast group comprises a plurality of foreign agents each receiving multicast packets containing information for communication to the mobile unit.

30. (Original) The logic of Claim 29, wherein each of the foreign agents receiving the multicast packets communicates the information from the multicast packets to facilitate handoff of the mobile unit.

31. (Original) The logic of Claim 25, wherein the device identifier is at least one of a mobile identification number (MIN) for the mobile unit and an equipment serial number (ESN) for the mobile unit.

32. (Currently Amended) The logic of Claim 25, further operable to determine that signal strength for signals received from the mobile unit have dropped below a threshold and, in response to the determination, to withdraw from the multicast group.